

REMARKS

Claims 1-9, 13-15, and 17-66 are pending as of the Advisory Action dated August 13, 2003. Claims 1-2 and 22-25 stand rejected from the Final Office Action dated February 28, 2003. Claims 3-9, 13-15, 17-21, and 26-66 are withdrawn from consideration. Applicants have amended herein claims 1, 5-7, and 9; Applicants have also canceled claims 26-66. Thus, claims 1-9, 13-15, and 18-25 are now pending. Applicants have also amended one paragraph of the specification to correct two minor typographical errors; none of the amendments to either the claims or the specification add any new matter to this application.

Restriction and Election of Species Requirements

Canceled Claims. In this Amendment, Applicants have canceled claims 26-66, directed toward a method of making a recyclable adhesive or coating, a method of recycling a paper product, and products made from the method of making a recyclable adhesive or coating. Applicants ask that these claims be canceled without prejudice to their introduction in a later divisional application.

Traversal of Restriction and Election Requirements. In the Advisory Action dated August 13, 2003, the Examiner confirms Applicants' election of a copolymer of butyl acrylate and 3-methacrylamido-propyltrimethylammonium chloride (MAPTAC). In the Advisory Action, however, the Examiner noted that election of species resulting from the telephone conversation of June 20, 2002, has been treated as an election without traverse. Applicants wish to point out that the Examiner previously noted Applicants' traversal of both the restriction and the election of species requirements in the Office

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Action dated June 28, 2002 (see ¶¶ 1 and 3). The Examiner has also previously noted the Applicants' further election with traverse of the particular cationic specie in the same Office Action (see ¶ 4). With these traversals already of record, Applicants did not need further to distinctly and specifically point out the supposed errors in the restriction and election requirements. Thus, Applicants respectfully request that the Examiner restate these elections as having been made with traverse.

Reconsideration of Withdrawn Claims. With claims 3-9, 13-15, and 18-21 withdrawn, Claims 1-2 and 22-25 are now under consideration. Applicants request the further reconsideration of the withdrawal of claims 5-9, 13-15, and 18-21. These claims each recite, either expressly or by dependency, the elected co-polymer of butyl acrylate and MAPTAC monomers. Thus, these claims should be properly considered along with claims 1-2 and 22-25 already under consideration. Claims 3-4, directed to a hot-melt adhesive, remain withdrawn from consideration; however, Applicants ask that amended claim 1 be recognized as a linking claim as it claims the genus encompassing both the elected specie (now recited in claims 5-9, 13-15, and 18-21) and a non-elected specie (claims 3-4). Regardless of the status of claim 1, Applicants respectfully request the examination of claims 5-9, 13-15, and 18-21 in the next office action.

Rejection under 35 U.S.C. § 112, First Paragraph

The Examiner has rejected claims 1-2 and 22-25 under 35 U.S.C. § 112, first paragraph, stating that "the specification ... does not reasonably provide enablement for polymers formed from a backbone polymer and a cationic monomer." Final Office

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Action (Paper No. 10) at ¶ 12. In the Advisory Action, the Examiner stated that an amendment clarifying the claimed subject matter would overcome this rejection.

Applicants have herein amended the claims to clarify the recited subject matter. Claim 5 now recites the co-polymerization of a cationic monomer and a “backbone compound.” The usage of the term backbone in this manner is consistent with both the specification and the understanding of those of ordinary skill in the art. The specification, as amended, states that “[t]he cationically charged polymer contains one or more backbone compounds co-polymerized with one or more cationically charged monomers. The preferred content of the backbone in the polymer is about 60 to 95 mole %, most preferably 80-90 mole %.” Specification at p. 12, l. 2-5. The specification then provides a non-exhaustive and non-limiting list of monomer backbone compounds, including n-butyl acrylate, that would be co-polymerized with the cationic monomer. Thus the amendment to claim 5 neither narrows the claim nor introduces new matter.

The specification further states that the backbone compounds may include hot-melt polymers, such as alkene-vinyl acetate copolymer (p. 15, l. 2-13). These backbone compounds, when subjected to polymerization with the monomer, would result in a graft copolymer as the monomers would attach to the polymer backbone compound. In this way the specification reasonably provides enablement for backbone compounds that are either monomers or polymers. The previously provided definition of “backbone” (submitted with the Amendment dated July 28, 2003) encompasses both these uses of backbone, and those of ordinary skill in the art certainly would understand the meaning of the term in light of that definition and the description provided in the specification.

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Applicants acknowledge the election of a specie wherein a cationic monomer (MAPTAC) and monomer backbone compound (butyl acrylate) are co-polymerized to produce the recited recyclable adhesive or adhesive coating. Dependent claims 5-9, 13-15, and 18-21, all recite this elected specie. Claim 1 has been amended to clarify the claimed subject matter, stating that the polymer comprises cationic repeat units and a backbone compound. The amendments to claim 1 neither narrow the claim nor introduce new matter. As discussed above, the specification fully enables claims 1-2, whether the backbone compound is a monomer or a polymer. Claim 1 thus properly acts as a linking claim between elected and non-elected species and need not be amended to recite specifically the elected specie. In light of the enabling disclosure provided in the original specification to both the elected and non-elected species, and the amendments to recite a "backbone compound," Applicants respectfully request that this rejection be withdrawn.

Rejections based on Mandeville et al.

The Examiner rejects claims 1-2 and 22-25 under 35 U.S.C. § 102(e) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,007,803 to Mandeville et al. The Examiner asserts that this reference teaches a co-polymer of MAPTAC and butyl acrylate, thus anticipating or rendering obvious the recyclable adhesive recited in the pending claims. Applicants respectfully traverse these rejections.

Anticipation. In order for a claim to be anticipated, a reference must disclose each and every element of the claim either expressly or inherently. See MPEP § 2131.

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Mandeville et al. teaches a cationic polymer used as a toxin binding agent to treat pathogenic toxins in mammals. See abstract. Independent claim 1 of this application specifies that "the adhesive or coating is attracted to fibers during paper recycling." The disclosure of Mandeville et al. is not directed toward the paper-making or paper-recycling arts; instead, the reference is directed toward the medical arts and the treatment of toxins. These divergent purposes indicate that Mandeville et al. would not, and indeed does not, disclose the claimed element of fiber attraction for its polymers. As a result, Applicants submit that Mandeville et al. does not anticipate claims 1-2 and 22-25 and, therefore, respectfully request that this rejection be withdrawn.

Obviousness. In order to prove a *prima facie* case of obviousness, the Examiner must provide a reference or references that satisfy three basic criteria: (1) there must be some motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference or references must teach or suggest all the claim limitations. See MPEP § 2143. Applicants submit that Mandeville et al. cannot meet at least the third requirement for a *prima facie* case of obviousness. As discussed above in regards to the 35 U.S.C. § 102(b) rejection, Mandeville et al. does not disclose that "the adhesive or coating is attracted to fibers during paper recycling" as recited in claim 1. Thus, the reference neither teaches nor suggests this claim limitation.

Applicants have previously argued that Mandeville et al. is non-analogous art that cannot support a rejection of the cited claims under 35 U.S.C. § 103(a). While apparently conceding that the reference is not within the field of the inventor's endeavor,

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the Examiner has rejected this argument, asserting that, because the reference shows the same polymer structure as recited by the present claim, it is reasonably pertinent either to the field of the invention or to the problem with which the inventor was involved. See Advisory Action ¶ 7. A determination of reasonable pertinence turns on the Examiner showing that a reference, "because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). The Examiner must make this determination from the viewpoint of one of ordinary skill in the art. See *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992).

The Examiner believes that Mandeville et al. describes the polymer recited in the pending claims but has made no showing that one of ordinary skill in the art would look to toxin binding art in preparing a recyclable adhesive for paper. The Federal Circuit has previously cautioned against asserting obviousness of a claimed invention over art that may disclose a similar invention yet lies in an entirely different field. See *id.* (a reference for a hook and eye fastener in garments did not render obvious a claimed hose clamp comprising a hook because one of ordinary skill was not shown to be reasonably expected to consider garment fastening art in creating a hose clamp). Similarly, the Declaration of Dr. Yulin Deng dated July 28, 2003, highlights the completely different purposes of a toxin binder and a recyclable adhesive, revealing that one of ordinary skill would not look to such art in creating an adhesive like the one claimed, regardless of any supposed equivalence in structure.

The Deng declaration, in combination with the requirements of *Oetiker* and *Clay*, clearly shows that Mandeville et al. does not constitute art that is reasonably pertinent to

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creating a recyclable adhesive. See also *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 313 (Fed. Cir. 1985) (stating that prior art may not be presumed analogous by being “gathered with the claimed invention in mind”). As a result, the Examiner has not shown that one of ordinary skill in the art would be motivated to modify the toxin binding teachings of Mandeville et al. to create a recyclable adhesive. Thus, Applicants submit that this reference therefore also does not satisfy the first requirement of a *prima facie* case of obviousness.

In conclusion, Mandeville et al. does not teach or suggest the claimed limitation of a polymer attracted to paper fibers during recycling. Also, because the reference is not reasonably pertinent to the art or problems associated with recyclable adhesives, the reference is non-analogous art that one of ordinary skill in the art would not be motivated to modify in creating a recyclable adhesive. Therefore, Applicants submit that the Examiner has not made a *prima facie* case of obviousness over Mandeville et al. and respectfully request that this rejection be withdrawn.

Rejections based on Bister et al.

The Examiner rejects claims 1-2 and 22-25 under 35 U.S.C. § 102(b) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 4,871,594 to Bister et al. The Examiner asserts that this reference teaches a co-polymer of MAPTAC and n-butyl acrylate, thus anticipating or rendering obvious the claimed recyclable adhesive. Applicants respectfully traverse these rejections.

Anticipation. As stated above, a reference must disclose each and every element of the claim either expressly or inherently to anticipate a claim. See MPEP

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§ 2131. Bister et al. teaches aqueous cationic dispersions used for impregnating and priming porous absorbent substrates. See abstract. Independent claim 1 of this application specifies that “the adhesive or coating is attracted to fibers during paper recycling.” Nowhere in its specification does Bister et al. either expressly or inherently disclose that its aqueous dispersions would be attracted to fibers during recycling. As a result, Applicants submit that Bister et al. does not anticipate claims 1-2 and 22-25 and, therefore, respectfully request that this rejection be withdrawn.

Obviousness. Applicants have stated above the requirements of a *prima facie* case of obviousness, one of which is that the cited reference must teach or suggest all the claim limitations. See MPEP § 2143. Claim 1 of the pending application recites that the “adhesive or coating is attracted to fibers during paper recycling.” This limitation is neither taught nor suggested by Bister et al.

The Examiner states that the copolymers of Bister et al., while useful for priming substrates, would include those with tacky properties. See First Office Action (Paper No. 7) at ¶ 25. The Examiner makes this assertion, however, without also stating that the reference discloses that these potentially tacky polymers are attracted to fibers during paper recycling. Bister et al. never makes such a suggestion, focusing instead on its polymers “for the purpose of impregnating, priming and consolidating absorbent substrates.” Col. 1, ln. 10-11. By filling the holes in the surface of a given substrate through covering its surface and penetrating below the surface, the primer “consolidates” the substrate so that subsequent coating adhere to it. See col. 1, ln. 25-29. This gap-filling ability is also a reason why the reference is concerned with the particle diameters of its polymers. See col. 3, ln. 54-57 and Table 1.

Bister et al. never states that its “gap-filling” primer polymers would also be attracted to the coated substrates. Moreover, the reference certainly never indicates that the polymers would be attracted to fibers during paper recycling, as would the polymers of the instant application. The Declaration of Dr. Yulin Deng dated July 28, 2003, stresses this difference between the disclosed primer of Bister et al. and the recyclable adhesive of this application. Applicants therefore submit that Bister et al. does not teach or suggest all this limitation of the pending claims and, thus, cannot render the claims *prima facie* obvious.

Further, Applicants submit that the Examiner has made no showing that one of ordinary skill would be motivated to modify the primers taught by Bister et al. for use as recyclable adhesives. The divergent purpose of the reference and the claims highlights why a skilled artisan would not attempt to use a substrate “gap-filler” as a fiber-attractive recyclable adhesive, regardless of any asserted similarity between the polymers used for these purposes. As such, Applicants submit that the disclosure of Bister et al. is insufficient to cause one of ordinary skill to make the leap from a substrate primer to a recyclable adhesive. See *In re Linter*, 458 F.2d 1013 (C.C.P.A. 1973); MPEP § 2143.01. In sum, the Examiner has not proven a *prima facie* case of obviousness over Bister et al. because the reference does not teach or suggest all the limitations of the pending claims and one of ordinary skill would not be motivated to modify its teachings to achieve the claimed recyclable adhesive. Applicants respectfully request that the Examiner’s rejections over Bister et al. be withdrawn.

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Rejections based on Huth et al.

The Examiner rejects claims 1-2 and 22-25 under 35 U.S.C. § 102(b) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,518,585 to Huth et al. The Examiner asserts that the references' disclosed compositions for sizing paper pulp, made from butyl acrylate and MAPTAC, either anticipate or render obvious the pending claims. Applicants respectfully traverse these rejections.

Huth et al. states that its cationic dispersions are plastics. See col. 2, ln. 61-65. Applicants submit that a plastic cannot be used as a recyclable adhesive, and certainly that a plastic is not suggested by the reference to be attracted to fibers during recycling. Dr. Yulin Deng, in his Declaration of July 28, 2003, makes the same assertion. Therefore, despite the Examiner's statements otherwise, the plastic compositions of Huth et al. would not be capable of performing the same intended use as the recyclable adhesives of the pending claims. As a result, Applicants submit that Huth et al. cannot be relied upon to make a *prima facie* case of obviousness as it does not teach or suggest all the limitations of the pending claims. Applicants therefore respectfully request the withdrawal of the obviousness rejection based on this reference.

As to anticipation, Huth et al. does not disclose that its plastic sizing agents would be attracted to fibers during paper recycling, as recited in the pending claims. Therefore, Huth et al. should not anticipate the pending claims as it does not disclose this claim limitation. Applicants respectfully request the withdrawal of this rejection.

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Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and the continued examination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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